Java Server Faces (JSF)

بسم الله الرحمن الرحيم

Java Server Faces (JSF)

Contents

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Java Server Faces (JSF)

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-الكتاب عبارة عن سلسله من الدروس لتعلم كيفيه التعامل مع
Frameworks(jsf)

Java Server Faces (JSF)

Chapter 1
JSF Introduction

<u>Outline</u>

- What is JSF?
- Why JSF?
- What JSF looks like?
- Why we need frameworks/ frameworks types?
- Evolution of technologies
- JSF Architecture
- JSF Life cycle
- Application

Java Server Faces (JSF)

What is JSF?

- It is a standard Java Framework for building Web applications.

- It simplifies development by providing a component-centric approach to developing Java Web user interfaces.

- A set of Web-based GUI controls and associated handlers

- JSF provides many prebuilt HTML-oriented GUI controls , along with code to handle their events.

- A device-independent GUI control framework

- JSF can be used to generate graphics in formats other than HTML, using protocols other than HTTP.

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Why JSF?

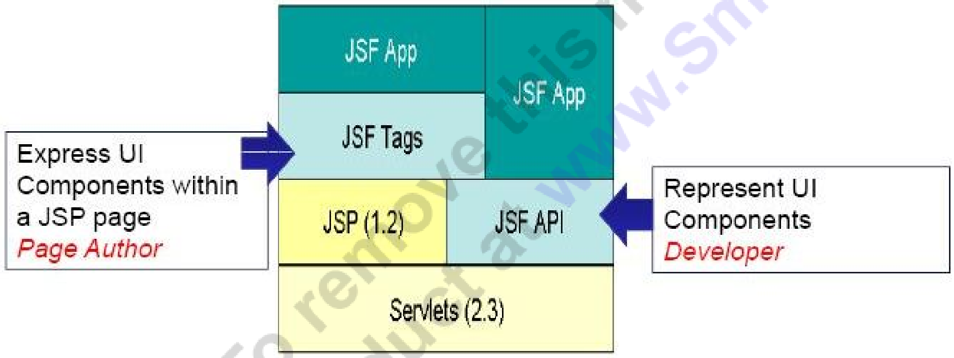
1. Standard.
2. Easy to use.
3. MVC for web applications.
4. Support for client device independence.
6. Huge vendor and industry support.
7. Can work with any presentation technology including JSP.
8. Extendable Component and Rendering architecture.
9. UI elements is stateful objects on the server.

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What JSF looks like?

- JSF is a **Rapid Application Development** (RAD)
- **The technology under the hood** :



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Why do we need frameworks?

- **Why do we need frameworks?**

  – To help to carry some tedious tasks from the developer , and make it automatic which make it easy to scale

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Types of Frameworks

- **Foundation framework:**

– Form processing ,
– Page management.
– Type conversion,
– Error handling,
– Enforcing MVC model,
– Not masking the fundamental request / response nature of HTTP.
– Example ; Struts

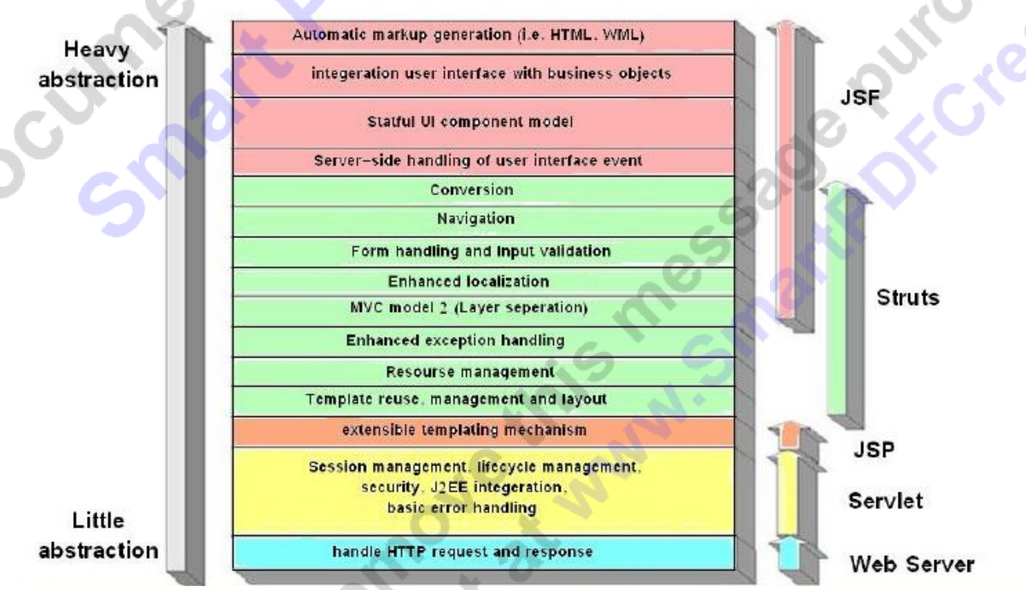
- **UI framework:**

– Form processing ,
– Page management.
– Type conversion,
– Error handling,
– Enforcing MVC model,

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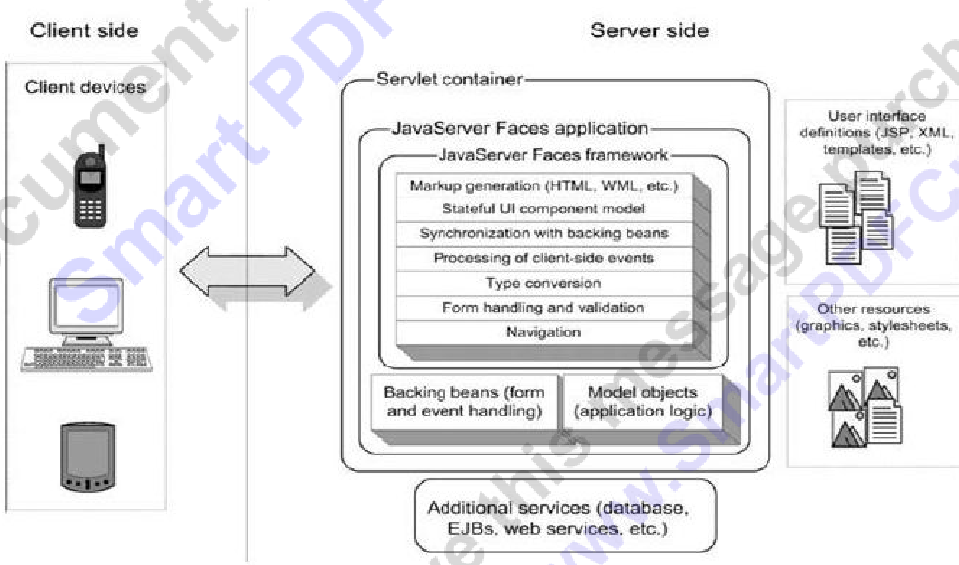
– Masking the fundamental request / response nature of HTTP.
– Component based web application.
– Example ;,ADF, JSF

Evolution of Technologies



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JSF Architecture



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Request Processing Lifecycle

- **Types of the request:**

1. Initial Request:
– A user requests the page for the first time.
– Lifecycle only executes the restore view and render response phases.

2. Post back:
– A user submits the form on a page that was previously loaded into the browser.
– Lifecycle executes all phases.

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Lifecycle of JSF Page

- A JSF page is represented by a tree of UI components, called a view.

- When a client makes a request for the page, the lifecycle starts.

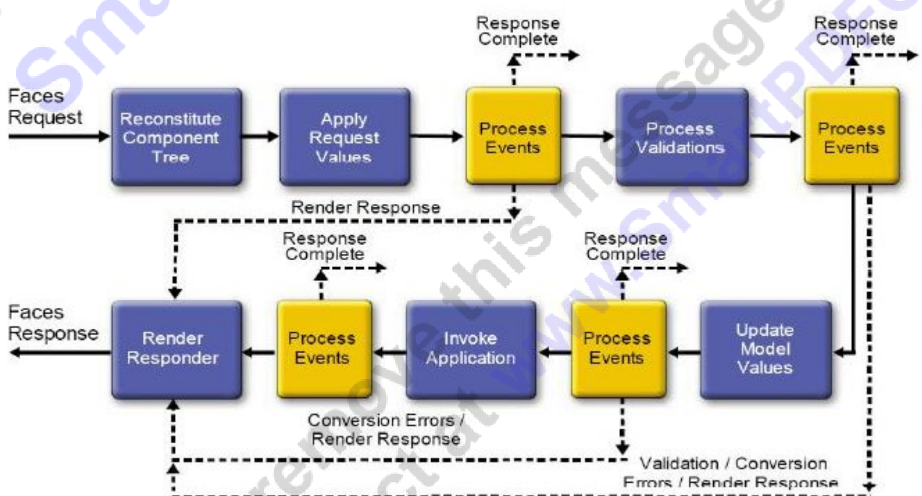
- During the lifecycle, JSF implementation must build the view while considering state saved from the previous post back.

- When the client performs a post back of the page, JSF implementation must perform lifecycle steps mainly :

- conversion **- validation**

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Request Processing Lifecycle



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• **Apply Request Values:**

– Update the value of the components to equal ones sent in the request.

– **Events fired:** Phase events, action events, data model events

• **Process Validations:**

– Asks each component to validate itself.

– If the validation fails, the lifecycle advances directly to the Render Response phase to render the page with the error messages.

– **Events fired:** Phase events,

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value-changed events,
data model events

Request Processing Lifecycle

• **Update Model Values:**

– Updates all the values of backing beans or model objects associated with components.

– Only input components that have valueRef expressions will be updated.

– If the conversion fails, the lifecycle advances directly to render Response so that the page is re-rendered with errors displayed.

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– **Events fired:** Phase events, data model events.

Examples in the next article

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Thanks